REMARKS

Claims 17-37 are pending in this application. New claim 37 is added herein. Support for the new claim may be found in the claims as originally filed. Reconsideration is requested based on the foregoing amendment and the following remarks.

Interview Summary

The Applicants submit the following summary of the telephone interview that took place December 11, 2009 between the undersigned representative of the Applicants and the Examiner.

Telephone Conference:

The Applicants thank the Examiner for the many courtesies extended to the undersigned representative of the Applicants during the telephone interview that took place December 11, 2009.

Among the issues discussed during that interview were the patentability of the claims over the cited references.

Claim Rejections - 35 U.S.C. § 112:

Claims 26, 27, and 28 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The rejection is traversed. Reconsideration is earnestly solicited.

The Office Action asserts at the top of page 3, that:

> The phrase renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See M.P.E.P § 2173.05(d).

M.P.E.P § 2173.05(d), however, prohibits exemplary language like "such as" or "for example." None of claims 26, 27, or 28 recites exemplary language like "such as" or "for example." Claims 26, 27, and 28 are thus submitted to be definite within the meaning of 35 U.S.C. § 112, second paragraph. Withdrawal of the rejection is earnestly solicited.

Claim Rejections - 35 U.S.C. § 103:

Claims 17-20, 29, and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,075,779 to Agarwal et al. (hereinafter “Agarwal”) in view of U.S. Patent

No. 6,493,540 to Suzuki (hereinafter "Suzuki"). The rejection is traversed. Reconsideration is earnestly solicited.

In the claimed invention, a counting procedure is effected to determine whether radio bearers for multi-cast MBMS services, or individual radio bearers, are to be set up, as described at page 2, paragraph 2, continuing to page 3, paragraph 3, of the International Published Application. The goal of the claimed invention is thus not to receive acknowledgments from all potential user equipment, but to receive sufficient feedback information from the user equipment to decide on the type of radio bearers to be used.

It is more important to reduce the chance of collisions of these feedback transmissions than it is to receive all of them. Thus, in the claimed invention, the potential number of feedback transmissions is *reduced* at the beginning of a time interval in which random transmissions are affected by the user equipment, while the potential number of feedback transmissions is *increased* toward the end of the time interval. This is described, in particular, in connection with Figs. 6a and 6b. The second clause of claim 17, in particular, recites:

> Determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay, the random delay time being determined by the user equipment.

The exponential function shown in Fig. 6b, although having an inverse slope to that shown in Fig. 6a, results in the same effect. In the claimed invention, only user equipment with a random number equal or greater to the value of P(I) are allowed to transmit responses. Consequently, the probability distribution increases in density with increasing delay in this case as well.

Neither Agarwal nor Suzuki teaches, discloses, or suggests "determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay," as recited in claim 17. The Office Action, in fact, acknowledges in section 5, at page 5, with respect to the rejection of claims 33, 34, and 35, that Agarwal does not show "a probability distribution which increases in density with increasing time." In Agarwal, rather, multiple random time delays are determined by a mobile-telephone, as shown in Fig. 3.

In Agarwal, moreover, first random time delay is determined based on a time delay parameter, i.e. Delay Time of Acknowledgment to Broadcast Teleservice Message (DTABTM), as

described at column 4, lines 7 and 8. The DTABTM is received in a broadcast short message from the base station and multiplied with a random number between zero and one generated by the mobile-telephone, as described at column 5, lines 41-48. A third random delay is defined as a time interval between 0 and 30 blocks, with a granularity of six blocks.

Agarwal does not, however, describe how the mobile-telephone determines exactly which time interval it should use as the third random time delay. The first and third time delays described in Agarwal, thus, seemed to be determined using different principles. The aim of the time delays in Agarwal, however, is always to reduce collisions among acknowledging mobile telephones by distributing acknowledgment transmissions over time, as described at column 2, lines 19-22. Thus, Agarwal seeks to ideally arrive at an *even* distribution of these acknowledgment transmissions over time, instead of "determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay," as recited in claim 17.

Agarwal, moreover, determines the duration of the random delay period with a *random* number generator, instead of "a probability distribution that increases in density with increasing delay," as recited in claim 17. In particular, as described at column 2, lines 28-31:

> The time delay parameter is used by the mobile-telephone in conjunction with the output of a random number generator to determine the duration of a random delay period.

Since Agarwal determines the duration of the random delay period with a random number generator, Agarwal is not "determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay," as recited in claim 17.

Agarwal, moreover, determines a *random* delay period for the mobile-telephone to transmit a BSM acknowledgment, instead of "a probability distribution that increases in density with increasing delay," as recited in claim 17. In particular, as described at column 5, lines 29-33:

> The DTABTM is a time delay parameter, e.g., twenty minutes, which is multiplied by a random number generated by the mobile-telephone to determine a random delay period for the mobile-telephone to transmit a BSM acknowledgment.

Since Agarwal determines a random delay period for the mobile-telephone to transmit a BSM acknowledgment, Agarwal is not "determining a random delay time for user equipment to

transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay," as recited in claim 17.

Suzuki, for its part, is not "determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 17. Each mobile station in Suzuki, rather, generates a *random* number in the calculated maximum random delay time, as shown in Fig. 6 and described at column 9, lines 13-22:

> Using the above equation, each mobile station further generates a random number in the calculated maximum random delay time, and sets the number in the timer (step B4). The timer value set by generating a random number is started (step B5). When time-out of the timer occurs (step B6), the CPU 65 analyzes the collision control units (I/B) from the de-scrambled received data. When the CPU 65 detects a slot of the transmission allowed (I), it outputs the first unit transmission start instruction to the transmission control unit 61 once again.

Since each mobile station in Suzuki generates a random number in the calculated maximum random delay time, Suzuki is not "determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 17. Thus, even if Agarwal and Suzuki were combined as proposed in the Office Action, claim 17 would not result. Claim 17 is submitted to be allowable. Withdrawal of the rejection of claim 17 is earnestly solicited.

Claims 18, 19, 20, and 29 depend from claim 17 and add further distinguishing elements. Claims 18, 19, 20, and 29 are thus also submitted to be allowable. Withdrawal of the rejection of claims 18, 19, 20, and 29 is also earnestly solicited.

Claim 36:

Claim 36 recites:

> A calculation unit to determine a delay time for transmitting a signal on an uplink access channel, wherein the delay time is randomly determined based upon a probability distribution that increases in density with increasing delay.

Neither Agarwal nor Suzuki teaches, discloses, or suggests "a calculation unit to determine a delay time for transmitting a signal on an uplink access channel, wherein the delay time is randomly determined based upon a probability distribution that increases in density with

increasing delay," as discussed above with respect to the rejection of claim 17. Claim 36 is thus submitted to be allowable as well, for at least those reasons discussed above with respect to the rejection of claim 17. Withdrawal of the rejection of claim 36 is earnestly solicited.

Claims 33, 34, and 35:

Claims 33, 34, and 35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Agarwal in view of U.S. Patent No. 7,233,577 to Choi et al. (hereinafter "Choi"). The rejection is traversed. Reconsideration is earnestly solicited.

The third clause of claim 33 recites:

> Using the time variable information to determine delay times for transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time.

Agarwal neither teaches, discloses, nor suggests "using the time variable information to determine delay times for transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time," as discussed above with respect to the rejection of claim 17. Choi does not either, and thus cannot make up for the deficiencies of Agarwal in any case. The UEs in Choi, rather, select a *random* number before transmission of the AP. In particular, as described at column 6, lines 60-67, continuing at column 7, lines 1 and 2:

> The persistence value is a number between `0` and `1`, and is periodically transmitted to the UEs by the CRNC. The UEs then determine transmission of the AP based on the received persistence value. That is, the UEs select a random number before transmission of the AP. If the selected random number is smaller than the persistence value, the UEs transmit the AP. Otherwise, if the selected random number is larger than the persistence value, the UEs temporarily stop transmission of the AP and after a lapse of a predetermined delay time, restart transmission of the AP.

Since the UEs in Choi select a random number before transmission of the AP, Choi is not "using the time variable information to determine delay times for transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 33.

The UE in Choi, moreover, *randomly* selects one of the valid signatures and a signature selected by the UE. In particular, as described at column 30, lines 40-46:

> The UE randomly selects one of the valid signatures and a signature selected by the UE in the above described manner, i.e., the sub-channel groups for the CPCH, defined in the ASC allocated by the UTRAN. The UE assembles the AP 333 using the selected signature and transmits the assembled AP to the UTRAN in sync with the timing of the UTRAN.

Since the UE in Choi randomly selects one of the valid signatures and a signature selected by the UE, Choi is not "using the time variable information to determine delay times for transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 33.

Choi, moreover, selects the signature *randomly* in order to prevent a collision between the UEs which have received the ACK signal after transmitting the same AP to the UTRAN. In particular, as described at column 37, lines 31-34:

> One reason for randomly selecting the signature is to prevent a collision between the UEs which have received the ACK signal after transmitting the same AP to the UTRAN, thereby having to perform the confirmation process again.

Since Choi selects the signature randomly in order to prevent a collision between the UEs which have received the ACK signal after transmitting the same AP to the UTRAN, Choi is not "using the time variable information to determine delay times for transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 33.

Finally, in Choi, the MAC layer draws a *random* number R in order to perform a persistency test to determine whether to attempt an access to the PCPCH supporting the TF, and compares the random number R drawn in step 3210 with the persistency value P. in particular, as described at column 76, lines 19-28:

> In order to perform a persistency test to determine whether to attempt an access to the PCPCH supporting the TF selected in step 3209, the MAC layer draws a random number R in step 3210. Thereafter, in step 3211, the MAC layer compares the random number R drawn in step 3210 with the persistency value P acquired in step 3203 from RRC.

Since, in Choi, the Mac layer draws a random number are in order to perform the persistency test, Choi is not "using the time variable information to determine delay times for

transmitting signals on an uplink access channel from the user equipment, the time variable information varying based upon a probability distribution which increases in density with increasing time" either, and thus cannot make up for the deficiencies of Agarwal with respect to claim 33. Thus, even if Agarwal and Choi were combined as proposed in the Office Action, claim 33 would not result. Claim 33 is thus submitted to be allowable, for at least those reasons discussed above with respect to the rejection of claim 17. Withdrawal of the rejection of claim 33 is earnestly solicited.

Claim 34 depends from claim 33 and adds further distinguishing elements. Claim 34 is thus submitted to be allowable as well. Withdrawal of the rejection of claim 34 is earnestly solicited.

Claim 35:

The second clause of claim 35 recites:

> A transmitter to transmit a time variable information in downlink to user equipment located in an area covered by the base station, wherein the information is used in the user equipment to determine delay times for transmitting signals on an uplink access channel and wherein the information varies based upon a probability distribution which increases in density with increasing time.

Neither Agarwal nor Choi teaches, discloses, or suggests "a transmitter to transmit a time variable information in downlink to user equipment located in an area covered by the base station, wherein the information is used in the user equipment to determine delay times for transmitting signals on an uplink access channel and wherein the information varies based upon a probability distribution which increases in density with increasing time," as discussed above with respect to the rejection of claim 33. Claim 35 is thus submitted to be allowable as well, for at least those reasons discussed above with respect to the rejection of claim 33. Withdrawal of the rejection of claim 35 is earnestly solicited.

New Claim 37:

The second clause of claim 37 recites:

> Wherein the information varies based upon a probability distribution which increases in density with increasing time.

None of the cited references teach, disclose, or suggest "the information varies based upon a probability distribution which increases in density with increasing time," as recited in claim 37. Claim 37 is thus believed to be allowable.

Allowable Subject Matter:

The Applicant acknowledges with appreciation the indication that claims 21-25, 30, 31, and 32 contain allowable subject matter.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all of claims 17-37 are allowable over the cited references. Allowance of all claims 17-37 and of this entire application is therefore respectfully requested.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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